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EPA Demolition and Renovation Inspection Procedures. (S22)

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DEMOLITION & RENOVATION INSPECTION PROCEDURES

STATIONARY SOURCE ENFORCEMENT DIVISION
OFFICE OF GENERAL ENFORCEMENT
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.
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S22. EPA DEMOLITION AND RENOVATION INSPECTION PROCEDURES

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EPA DEMOLITION AND RENOVATION INSPECTION PROCEDURES

Table of Contents

		Page
I.	INTRODUCTION	1
II.	PRE-INSPECTION PROCEDURES	2
	A. Briefings	4
	B. Preliminaries	4
	1. Notifications	
	2. Equipment Checklist	
	3. List of Permitting Agencies	
III.	THE INSPECTION	5
	A. Arrival and Entry to the Site	5
	1. Safety	
	2. Authority	
	B. Regulations and Procedures	5
	1. Federal Register Requirements	
	2. Demolition and Renovation Inspection Checklist	
	3. Visible Emissions	
	4. The Inspection	
	C. Sampling	12
	1. Sampling Procedures	

IV. SAMPLE CUSTODY 15

A. Chain-of-Custody Sample Transfer Record 15

B. Sample Analysis 15

C. Reporting Procedures 16

1. Written Summaries
2. Disposition of Samples

V. CASE DEVELOPMENT CONSIDERATIONS 19

VI. FOOTNOTES 21

VII. APPENDICES 23

Asbestos Materials
EPA Demolition and Renovation Inspection Procedures

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

I. INTRODUCTION

Since promulgation April 6, 1973, the NESHAP program, in particular Part 61.22(d) (demolition procedures), has been enforced by EPA regional offices. Revisions have now been made to include renovation projects under this section also.

The regulations are much more capable of being enforced on the State and/or local level. Delegation of that authority to the States is therefore proceeding as rapidly as possible. In the interim, it is the responsibility of EPA to enforce these regulations.

Procedures followed in sample collection are standardized and described below and, if need be, can be offered as evidence of the "regular course" followed by EPA in generating any given record.

Written procedures which are followed and will prevent tampering carry great weight with the courts and facilitate their admission as evidence under the Federal Business Records Act.

II. PRE-INSPECTION PROCEDURES

A. Briefings

Prior to any EPA on-site inspection of a demolition or renovation project, a complete inter-divisional briefing on the purpose and expected results should be held. Discussion between enforcement attorneys and the inspectors involved will answer the following type of questions: (1) Has the company reported its current projects? (2) Are the regulations clearly understood, and are copies available for distribution to the contractor? (3) Is a laboratory available for analysis of samples immediately after returning from the inspection?

B. Preliminaries

Inspections are initiated by the regional office and are based on the following information: (1) Direct contact with the individual contractors; (2) Previous contact with the city agency responsible for issuing permits to demolish or renovate; (3) Source addresses obtained through the 10 day reporting requirement[1] and received by the Enforcement Division. It may be desirable to contact the company and request the exact time of day the project will begin, if possible; (4) Random searches for active inspection sites not reported through the above procedures.

1. Notifications - The State or local air pollution control agency is notified of pending field inspections and invited to accompany the EPA inspectors.

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2. Equipment Checklist - The following equipment is utilized for on-site inspections: Respirator (disposable); hammer; chisel; crowbar; OSHA approved safety boots, helmets, and goggles for every person entering the site; camera, heavy duty lantern; and sample bags.

3. A comprehensive agency list should be consulted before traveling to any metropolitan area, which includes names and addresses of the municipal agencies which issue permits for demolition and renovation contracts. Each regional office should develop this list for its own use in the future.

III. THE INSPECTION

Upon arrival at the city being surveyed, sites are arranged so that the optimum number of inspections can be performed in a given time. Since many sites will not yield asbestos samples, the inspectors must be prepared to move on to the next site, with a minimum of time expended.

A. Arrival and Entry to the Site

1. Safety - The inspectors are expected to follow accepted safety procedures in all phases of their inspection. At no time are they to violate safety measures applied on the site, and, if in doubt, should ask the project superintendent for his opinion. In no case should the inspector jeopardize his personal safety to obtain a sample.

2. Authority - Authority for these inspections is explicitly given in Section 114(a)(2) of the Clean Air Act which says in relevant part that EPA inspectors shall ". . . . have a right of entry to, upon, or through any premises in which an emission source is located . . ."[2]

B. Regulations and Procedures

1. Federal Register Requirements - Compliance shall be observed and recorded according to the following regulations, in 40 CFR 61.22(d)(4); as revised:

> "(i) Friable asbestos materials, used to insulate or fireproof any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member, shall be removed from any building, structure, facility, or installation subject to this paragraph. Such

removal shall occur before wrecking or dismantling of any portion of such building, structure, facility, or installation that would break up the friable asbestos materials and before wrecking or dismantling of any other portion of such building, structure, facility, or installation that would preclude access to such materials for subsequent removal. Removal of friable asbestos materials used for insulation or fireproofing of any pipe, duct, or structural member which is encased in concrete or other similar structural material is not required prior to demolition, but such material shall be adequately wetted whenever exposed during demolition.

(ii) Friable asbestos materials used to insulate or fireproof pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall be adequately wetted during stripping, except as provided in paragraphs (d)(4)(iv), (d)(4)(vi) or (d)(4)(vii) of this section.

(iii) Pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members that are insulated or fireproofed with friable asbestos materials may be taken out of any building, structure, facility, or installation subject to this paragraph as units or in sections provided the friable asbestos materials exposed during cutting or disjointing are adequately wetted during the cutting or disjointing operation and subsequent removal. Such units shall not be dropped or thrown to the ground but shall be carefully lowered to ground level.

(iv) The stripping of friable asbestos materials used to insulate or fireproof any pipe, boiler, tank, reactor, turbine, furnace, or structural member that has been removed as a unit or in sections as provided in paragraph (d)(4)(iii) of this section shall be performed in accordance with paragraph (d)(4)(ii) of this section. Rather than comply with the wetting requirement, a local exhaust ventilation and collection system may be used to prevent emissions to the outside air. Such local exhaust ventilation systems shall be designed and

operated to capture the asbestos particulate matter produced by the stripping of friable asbestos material. There shall be no visible emissions to the outside air from such local exhaust ventilation and collection systems except as provided in paragraph (f) of this section.

(v) All friable asbestos materials that have been removed or stripped shall be adequately wetted to ensure that such materials remain wet during all remaining stages of demolition, renovation and related handling operations. Such materials shall not be dropped or thrown to the ground or lower floor. Such materials that have been removed or stripped more than 50 feet above ground level, except those materials removed as units or in sections, shall be transported to the ground via dust-tight chutes or containers.

(vi) Except as specified below, the wetting requirements of this paragraph are suspended when the temperature at the point of wetting of friable asbestos materials is below 0°C (32°F). When friable asbestos materials are not wetted due to freezing temperatures, such materials on pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall, to the maximum extent possible, be removed in sections prior to wrecking. In no case shall the requirements of paragraphs (d)(4)(iv) or (d)(4)(v) be suspended due to freezing temperatures.

(vii) For renovation operations, local exhaust ventilation and collection systems may be used, instead of wetting as specified in paragraph (d)(4)(ii), to prevent emissions of particulate asbestos material to outside air when damage to equipment resulting from the wetting would be unavoidable. Upon request and supply of adequate information, the Administrator will determine whether damage to equipment resulting from wetting to comply with the provisions of this paragraph would be unavoidable. Such local exhaust ventilation systems shall be designed and operated to capture the asbestos particulate matter produced by the stripping and removal of friable asbestos material. There shall be

no visible emissions to the outside air from such local exhaust ventilation and collection systems, except as provided in paragraph (f) of this section.

(5) * * *

(6) The demolition of a building, structure, facility or installation, pursuant to an order of an authorized representative of a State or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse is exempt from all but the following requirements of paragraph (d) of this section:

(i) The notification requirements specified by paragraph (d)(2) of this section;

(ii) The requirements on stripping of friable asbestos materials from previously removed units or sections as specified in paragraph (d)(4)(iv) of this section;

(iii) The wetting, as specified by paragraph (d)(4)(v) of this section, of friable asbestos materials that have been removed or stripped;

(iv) The portion of the structure being demolished that contains friable asbestos materials shall be adequately wetted during the wrecking operation.

(e) * * *

(f) Rather than meet the no-visible-emission requirements [above] . . . an owner or operator may elect to use the methods specified by §61.23 to clean emissions containing particulate asbestos material before such emissions escape to, or are vented to, the outside air.

(g) Where the presence of uncombined water is the sole reason for failure to meet the no-visible-emission requirement . . . of this section, such failure shall not be a violation of such emission requirements."

2. Demolition and Renovation Inspection Checklist - The attached checklist (Appendix 1) provides an example of a format to accurately record the inspector's on-site observations.

3. Any visible emissions observed from sources specified in parts (d)(4)(iv) and (d)(4)(vii) are recorded on the Demolition and Renovation Inspection Checklist. These sources include any local exhaust ventilation and collection system used in lieu of complying with the wetting requirements of §61.22(d) while stripping friable asbestos material or during renovating operations subject to (d)(4)(ii). There shall be no visible emissions from these sources, except as provided by paragraph (f) (above).

4. The Inspection - The following steps should be followed in removing, analyzing, and protecting asbestos samples obtained from active inspection sites:

a. Immediately contact the supervisor. This is followed by a statement of the reason for the visit and presentation of adequate credentials. Credentials are obtained in accordance with EPA Order #1400.1, revised December 23, 1974. Copies of section 61.22(d) should be given to the job superintendent at the time of inspection, with an explanation of the inspection purpose.

b. Request permission to enter the site, and that hazardous work cease during this time. When permission is granted, and hazardous work has ceased, then

the inspection may proceed. If permission is refused, the inspector should not contest the issue, but should obtain the name and position of the individual involved, before leaving the site. The inspector should acquaint the supervisor with right of entry provisions contained in section 114 of the Clean Air Act. In most cases, the issue can be resolved and entry obtained, by citation of relevant subsections of §114(a)(2) as follows:

> "The Administrator or his authorized representative upon presentation of his credentials -
>
> (A) shall have a right of entry to, upon, or through any premises in which an emission source is located or in which any records required to be maintained under paragraph (1) of this section are located, and
>
> (B) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under paragraph (1), and sample any emissions which the owner or operator of such source is required to sample under paragraph (1)."

Either Subpart (A) or (B), or both, may be recited and referenced so they are clearly heard and understood by the parties involved.

c. After entering, if a demolition project, first determine if demolition of any load-supporting structural members has occurred. All information is recorded on the Demolition and Renovation Inspection Checklist (Appendix 1). Then check any debris which is being thrown from the upper stories to the ground for the presence of suspected asbestos material. Note and record

any resultant visible emissions and obtain a sample, if possible.

d. If a demolition project, proceed to the boiler area of the building, to check for asbestos insulation around the boiler, hot water tanks, or associated plumbing. If necessary, request permission to remove sections of walls, or debris. Check structural beams and columns for asbestos insulation.

e. If suspected asbestos material is being removed during the inspection, record the procedures used to wet the asbestos and remove it from its location. Since the standard is a work standard, and not a visible emission standard, (except in parts (d)(4)(iv) and (vii), above), friable asbestos should be wetted and placed in sealed containers until it is properly disposed of. Photographs should be taken of any visible emissions observed during this procedure.

f. If after reminding the contractor of the requirements of the regulation, there is still doubt that some asbestos material will not be removed before actual work is commenced, try to find out the exact time work will begin. Then return to the site, if possible, and obtain the sample after the project has begun. If proper procedures are being followed, a second inspection will usually not be necessary.

g. If work is occurring on the upper levels of a multistory structure, and it cannot be determined whether or not the asbestos material has been removed, check on the availability of water on the upper floors.

h. During and immediately after the inspection, fill out the attached checklist and cross-reference any samples obtained with their numbers on the chain-of-custody tag. (See Appendix 2 for an example of a chain-of-custody tag.)

C. Sampling

Correct sample collection technique includes the following rules: (1) Minimum number of people handling the sample; (2) A standardized sampling procedure is followed; (3) Appropriate field sheets are completed at the time the sample is taken; i.e., signed and dated (see Appendices 1 and 2); (4) Photographs are taken to go along with the written documentation. Properly labeled photographs (photographer's signature, time, date, and subject should be on the back of the photo) are also subject to chain-of-custody procedures.

1. Sampling Procedures - If suspected asbestos is found, a sample is removed in the presence of a witness, and photographs are made of the point from which the sample is taken. A hammer and chisel are usually used to penetrate the sample and a large (> 1 lb.) sample is removed, and immediately placed in the sample bag. A chain-of-custody

tag (see Appendix 2) is filled out, with the name of the contractor, address of site, location of sample, time, date, name of inspector and witness, and sample number. This tag is then tied to the sample bag, and retained by the person taking the sample. Also recorded on the tag is whether or not the sample was wet at the time it was obtained.

IV. SAMPLE CUSTODY

A sample is in someone's custody if: (1) it is in his actual physical possession; (2) it is in his view, after being in his physical possession; (3) it was in his physical possession and he locked it up so that no one could tamper with it; or (4) it is kept in a secured area, restricted to authorize personnel only.

A. Chain-of-Custody Sample Transfer Record

When transferring possession of samples, the transferee (receiver) must sign and record the date and time on the sample transfer record for each sample (see Appendix 3).

Suspected asbestos samples must be properly packaged in safe contamination free containers.

Laboratory analysis should include a sample analysis custody sheet similar to Appendix 4 attached, which is retained in the file with the actual sample at all times. It is signed by a responsible official of the laboratory upon returning the sample to EPA.

B. Sample Analysis

After returning to the office with the sample, place it in the sample file, and then fill out the sample transfer record (Appendix 3). The following steps then take place:

1. The sample (and the sample transfer record sheet) are taken to a laboratory for a microscopic analysis.

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2. At the laboratory, the sample is transferred to a responsible official who signs the sample transfer record, with the time and date recorded.

3. The sample transfer record should be retained at the EPA office. If the samples are shipped to the laboratory, provision is made on the record for recording the date and time of shipping.

4. Upon analysis by the laboratory, a written summary of findings is submitted to EPA. This information is for the use of the Enforcement Division in a possible enforcement proceeding.

5. Notification of violation of the regulations should be made immediately upon discovery to the appropriate party within the company by the Enforcement Division.

6. The actual sample, after analysis (which should take no more than 1 week), is returned to EPA for possible future uses in an enforcement proceeding, along with a copy of the sample analysis custody sheet, similar to Appendix 4.

C. Reporting Procedures

1. Written Summaries - Field reports should be written to refresh the sampler's memory in the event he later becomes a witness in an enforcement proceeding; these reports are an important part of any anticipated case development, and must be stored in a safe place.

2. Disposition of Samples - All samples are retained according to the region's own chain-of-custody procedures for possible use in an enforcement proceeding. No asbestos sample is destroyed until written approval to do so is obtained from the regional enforcement attorney who is responsible for the case.

V. CASE DEVELOPMENT CONSIDERATIONS

Because of varying U.S. District Court interpretations of the Clean AIr Act, it may eventually become necessary to perform ambient air quality sampling at demolition and renovation sites. If the regional office thinks that such sampling will add to its prosecution of a case, then ambient air sampling may be performed. If ambient sampling becomes necessary DSSE will so advise the regional offices. Presently no acceptable method exists to quantitatively measure ambient air quality around a demolition or renovation project. Such a method will be developed, if needed.

The technique of analysis used on "hard" asbestos samples should be approved by the central regional laboratory of the regional office, prior to entering into an analysis agreement with a private laboratory. The regional laboratory should also specify a minimum standard for containerizing these samples since they will be handled frequently and stored for long periods. Commercial "Baggies" are not adequate for storing samples as they tend to rupture easily. Reports obtained from a private laboratory should include comments or conclusions regarding the friability of the asbestos samples, and the approximate percentage of asbestos contained therein by weight, if possible.

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DSSE will suggest appropriate chain-of-custody procedures in the future, for case development, if the regional office requests them. Basically, any chain-of-custody procedure developed by a regional office should consider as its prime objective the continuous knowledge of the whereabouts of the asbestos sample.

If requested for case development purposes, the inspector will return to a previously inspected site to obtain further evidence of non-compliance with the regulations. Only by a regular, systematic inspection procedure, can EPA insure a complete and accurate determination of compliance with demolition and renovation regulations.

VI. FOOTNOTES

[1]a. National Emission Standards for Hazardous Air Pollutants, 40 CFR 61.22(d).

b. 40 CFR 61, Revised, May 3, 1974.

[2] 42 USC 1857 et. seq.

VII. APPENDICES

Appendix 1 - Demolition and Renovation Inspection Checklist

Appendix 2 - Chain of Custody Record

Appendix 3 - Sample Transfer Record

Appendix 4 - Sample Analysis Custody Sheet

APPENDIX #1
UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
DEMOLITION AND RENOVATION INSPECTION CHECKLIST
40 CFR 61

Wrecker (or other) _____

Building owner _____

Building location _____

Description of building and approximate age: _____

Date and time of inspection _____

Supervisor present, name _____

Work being done? _____

Permission to enter given, by whom? _____

Permission given to take sample, by whom? _____

General weather conditions _____

WORK PRACTICES

Visible Emissions Observed: (61.22(d)(4)(iv) and (vii))

Observations: (removing and stripping procedures, visible emissions, waste disposal, debris being dropped from upper levels)

_____

_____

Photographs taken: (description) _____

Entry to site refused: _____

By whom: _____

Wetting being performed? (Method, number of hoses) is water available in all areas where suspected asbestos material exists? _____

Method of removal of suspected material to ground (manual, chute, etc)? _____
Method of removal to ground in units or sections:

_____

SAMPLING

Sample(s) taken? _____ Sample Number _____

From where? _____ Friable? _____

Witnessed by: _____

Photographs taken? _____ Description: _____

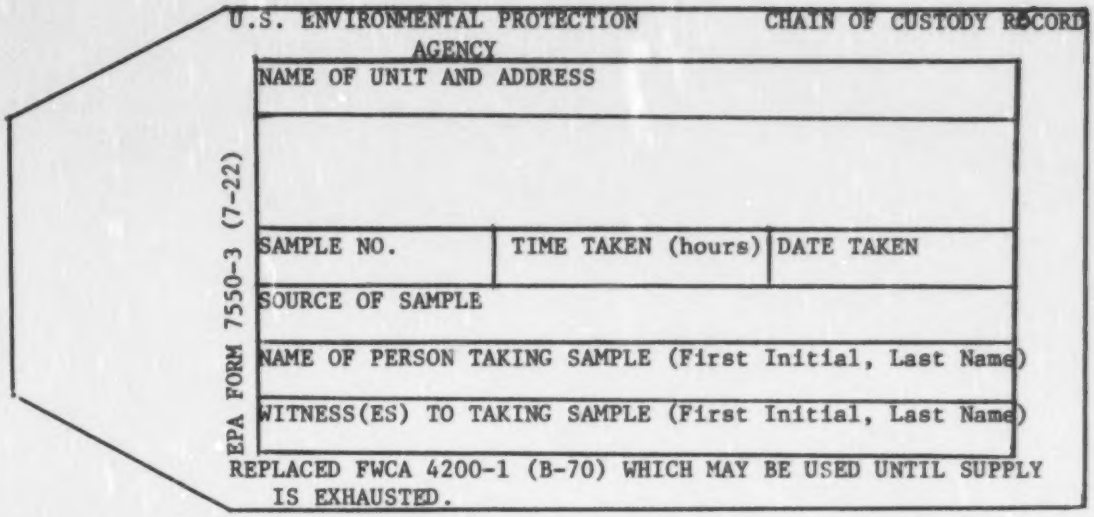
Comments (discuss specific procedure observed, options exercised, continue on reverse side) _____

This operation was/was not being performed in accordance with federal regulations.

Inspector's Signature _____

APPENDIX #2

CHAIN OF CUSTODY RECORD



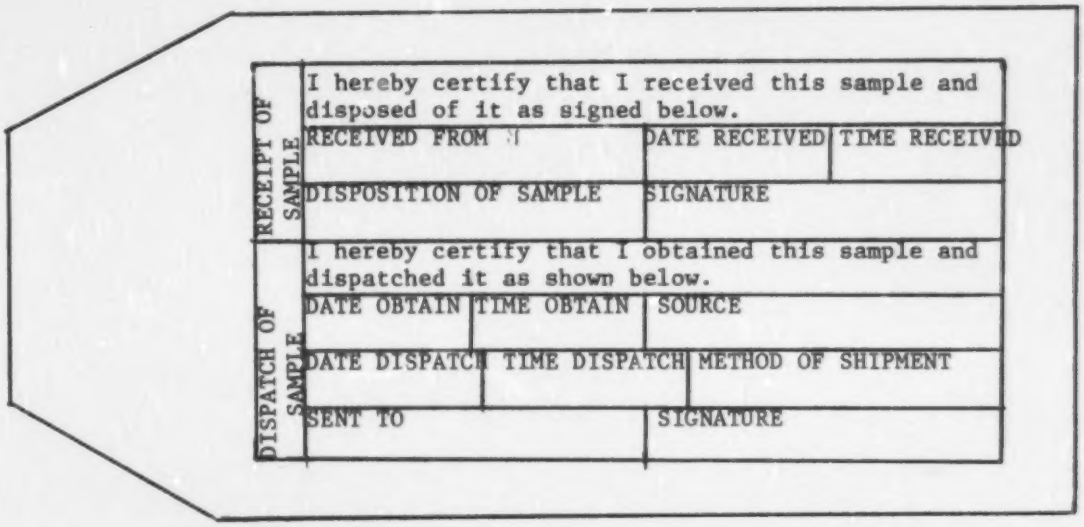
U.S. ENVIRONMENTAL PROTECTION AGENCY — CHAIN OF CUSTODY RECORD

EPA FORM 7550-3 (7-22)

NAME OF UNIT AND ADDRESS		
SAMPLE NO.	TIME TAKEN (hours)	DATE TAKEN
SOURCE OF SAMPLE		
NAME OF PERSON TAKING SAMPLE (First Initial, Last Name)		
WITNESS(ES) TO TAKING SAMPLE (First Initial, Last Name)		

REPLACED FWCA 4200-1 (B-70) WHICH MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

REVERSE



RECEIPT OF SAMPLE	I hereby certify that I received this sample and disposed of it as signed below.		
	RECEIVED FROM	DATE RECEIVED	TIME RECEIVED
	DISPOSITION OF SAMPLE	SIGNATURE	
DISPATCH OF SAMPLE	I hereby certify that I obtained this sample and dispatched it as shown below.		
	DATE OBTAIN / TIME OBTAIN	SOURCE	
	DATE DISPATCH / TIME DISPATCH	METHOD OF SHIPMENT	
	SENT TO	SIGNATURE	

APPENDIX #3

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
40 CFR 61
DEMOLITION AND RENOVATION

SAMPLE TRANSFER RECORD

Sample Nos:

_____ _____ _____ _____ _____

Sampler _____

I certify that I released the custody of the ( ) containers ( ) samples listed above to _____
(Name or Company)

_____ at _____
(Agency) (Location)

on _____, 197___ at _____ (A.M.) (P.M.)

The above samples were released as:

( ) individual samples bearing the numbers above

( ) containers bearing the numbers above

If shipped, these samples were addressed to:

_____

_____

Relinquished by:	Received by:	
_____ (Name)	_____ (Name)	_____ Date/Time
_____ (Agency)	_____ (Agency)	_____
_____ (Name)	_____ (Name)	_____
_____ (Agency)	_____ (Agency)	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

APPENDIX #4

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

SAMPLE ANALYSIS CUSTODY SHEET

Samples bearing Numbers _____

were received from _____

on _____ at _____ by the undersigned and were in the custody of competent laboratory personnel at all times during the time required for analyses. After analyses were completed, samples were locked in a custody room.

At no time were there any unauthorized personnel in the area while the samples were being analyzed.

Signed _____

_____

• U.S. GOVERNMENT PRINTING OFFICE: 1975—218-810:54